

Datasheet *Preliminary*

Main Features

- Sensor: 1024 to 4096 Pixels, 10 or 14 μm square
- Camera Link® Interface (Base Configuration)
- Data rate: 40 Mpixels/s on Two Taps
- Bit Depth: 8 bits
- Dimensions: 60 x 60 x 45 mm (w, h, l)
- Antiblooming
- Cost effective and Easy to Use
- Fully Configurable with CommCam Software



Product Description

DiViINA is a cost efficient CCD line scan camera family with Camera Link interface. Featuring e2v's own high performance linear CCD sensors from 1024 pixels up to 4096 pixels, as used in the world recognized AViiVA cameras; DiViINA cameras offer high image quality with user-friendly simplicity. DiViINA is the perfect candidate for mid range machine vision applications.

Typical Applications

- Web Inspection: Wood, Paper, Metallurgy
- Part inspection and sorting (Cotton, Rice, Food)
- General Machine Vision Inspection

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1. Standard Conformity

The DiViiNA cameras have been tested using the following equipment:

- A shielded power supply cable
- A camera Link data transfer cable ref. 14B26-SZLB-500-OLC (3M)

e2v recommends using the same configuration to ensure the compliance with the following standards.

1.1 CE Conformity

The DiViiNA cameras comply with the requirements of the EMC (European) directive 89/336/CEE (EN 50081-2, EN 61000-6-2).

1.2 RoHS Conformity

DiViiNA cameras comply with the requirements of the RoHS directive.

2. Key Specifications

Table 2-1. Typical Performances

Sensor Characteristics	Value			Unit
Sensor Characteristics at Maximum Pixel Rate				
Resolution	1024	2048	4096	Pixels
pixel size (square)	10 or 14	10 or 14	10	μm
Max line rate	35.7	18.1	9.5	kHz
Radiometric Performance at Maximum Pixel Rate and Minimum Camera Gain				
Bit depth	8			Bits
Responsivity (14 μm pixels size)	9			LSB/(nJ/cm ²)
Responsivity (10 μm pixels size)	3.5			LSB/(nJ/cm ²)
Response nonlinearity	<1			%
PRNU	±3			%
Dynamic range	58			dB
Functionality (Programmable via Control Interface)				
Gain	Up to 35 dB			
Offset	Up to 63 LSB			
Trigger Mode	Free run, and external triggered			
Mechanical and Electrical Interface				
Size (w x h x l)	60 x 60 x 45			mm
Weight	210 g (without mount)			g
Lens Mount	M42 x 1 (by default) F (Nikon) or C optional mounts			
Sensor alignment	±200			μm
Sensor flatness	±30			μm
Power supply	Single 12 to 24			V
Power dissipation	<5			W
General Features				
Operating temperature	0 to 65 (front face)			°C
Storage temperature	-40 to 70			°C
Regulatory	CE, and RoHS compliant			

3. Camera Performances

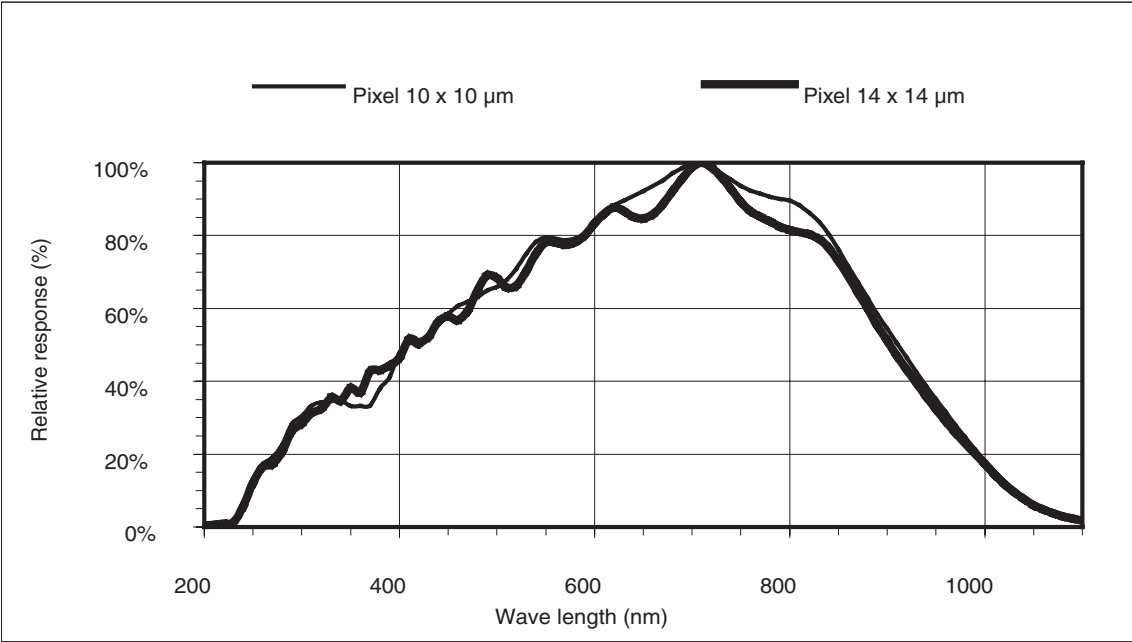
3.1 Camera Characterization

Table 3-1. Camera Characterization

	Min Gain			Unit
	Min	Typ	Max	
Dark noise RMS		0.3		LSB
Dynamic range		58		dB
FPN rms		1		%
FPN peak-to-peak		6		%

3.2 Image Sensor

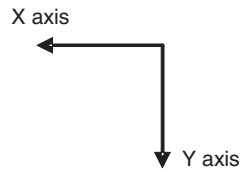
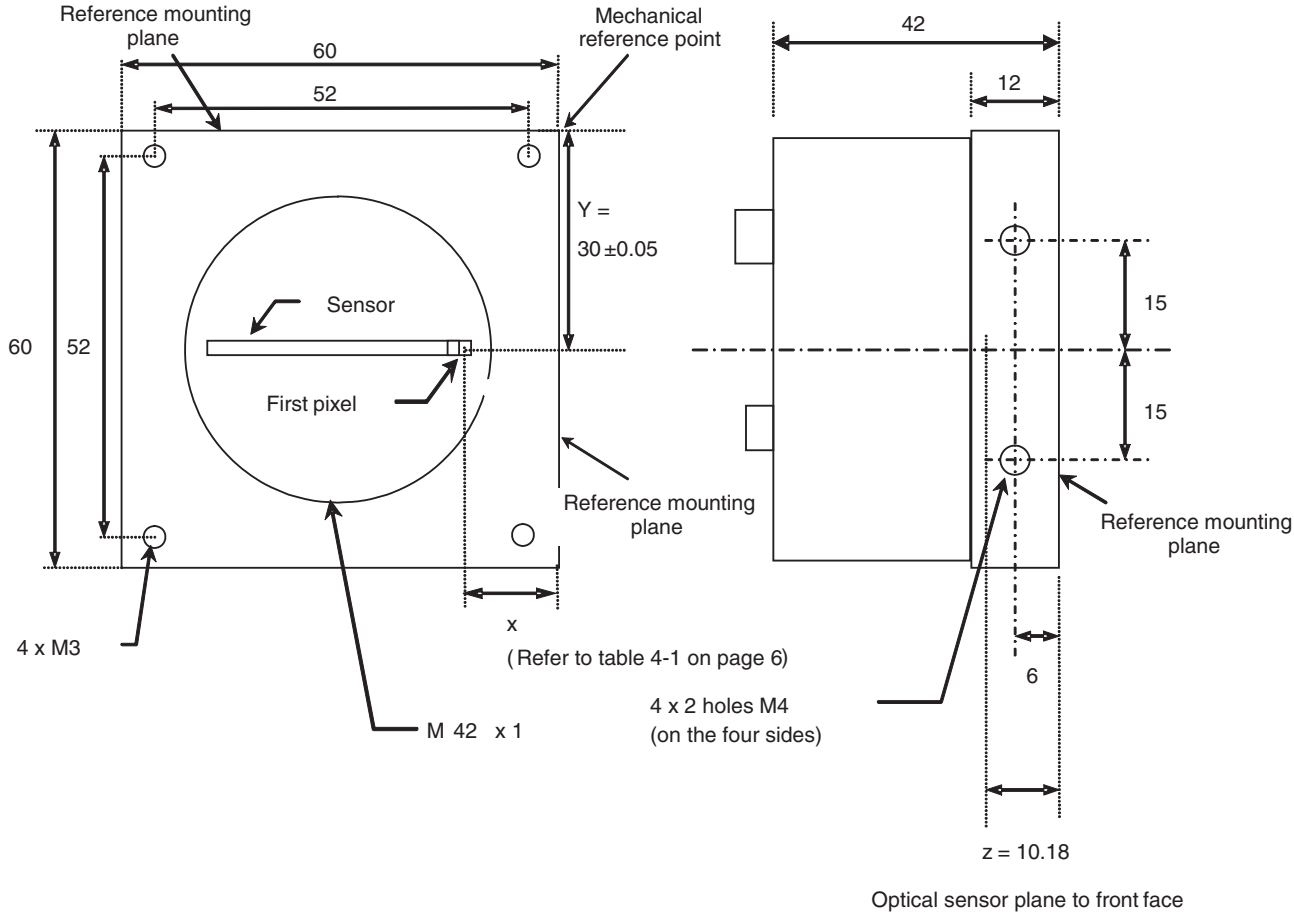
Figure 3-1. Image Sensor



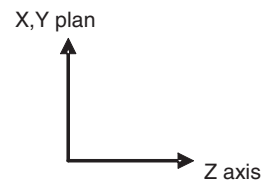
4. Camera Hardware Interface

4.1 Mechanical Drawings

Figure 4-1. Mechanical Drawings



All dimensions in millimeters



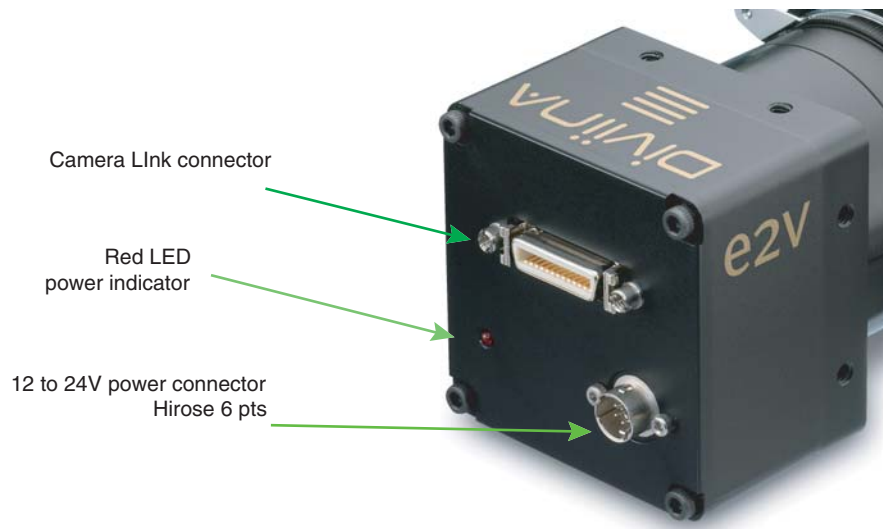
Optical sensor plane to front face

4.1.1 Sensor Alignment

Table 4-1. Sensor Alignment

Sensor Size (Pixels #)	1024	2048	4096
x with 14 μm sensor (nm)	20.83	13.66	
x with 10 μm sensor (nm)	22.88	17.76	7.52

Figure 4-2. Rear View

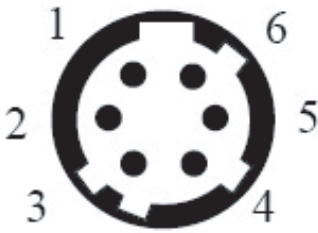


4.1.2 Power Connector

Camera connector type: Hirose HR10A-7R-6PB (male)

Cable connector type: Hirose HR10A-7P-6S (female)

Table 4-2. Power Connector

 <p>Camera side description</p>	Signal	Pin	Signal	Pin
	PWR	1	GND	4
	PWR	2	GND	5
	PWR	3	GND	6
<p>Power supply from 12V to 24V Advised Power 7W with an inrush current of 1A during power up</p>				

4.1.3 Camera Link Output Configuration

Port/Bit	Output Data
Port A0	A0
Port A1	A1
Port A2	A2
Port A3	A3
Port A4	A4
Port A5	A5
Port A6	A6
Port A7	A7
Port B0	B0
Port B1	B1
Port B2	B2
Port B3	B3
Port B4	B4
Port B5	B5
Port B6	B6
Port B7	B7

5. Camera Models

Table 5-1.

Part Number	Sensor type (Resolution, Pixels size)	Description
Camera		
EV50YLM2CL1010-BA0	1024 pixels, 10 μm size	DiViINA LM2 CL 1010
EV50YLM2CL2010-BA0	2048 pixels, 10 μm size	DiViINA LM2 CL 2010
EV50YLM2CL4010-BA0	4096 pixels, 10 μm size	DiViINA LM2 CL 4010
EV50YLM2CL1014-BA0	1024 pixels, 14 μm size	DiViINA LM2 CL 1014
EV50YLM2CL2014-BA0	2048 pixels, 14 μm size	DiViINA LM2 CL 2014
Accessories		
EV50-MOUNT-F		F Mount for DiViINA
EV50-MOUNT-C		C Mount for DiViINA



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